

496 KINDERKAMACK ROAD, ORADELL, NJ 07649  
201-599-0588 - (FAX) 201-599-0179

JOEL &amp; JOEL LLP

#9  
Pett  
w/D  
Abel  
DW

# Fax

To: OFFICE OF PETITIONS  
STEVEN MEYERS, SPE From: RICHARD A. JOEL, ESQ. (Reg. No. 22212)

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Fax: 703-308-6917 703-605-0568 Pages: 33

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Phone: Date: 7/16/03

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Re: SN: 09/800,817 (EQUAL  
RESPONSE AXI.E)  
Attorney Docket No. P01-132-KLE

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☐ Urgent ☒ For Review ☒ Please Comment ☒ Please Reply ☐ Please Recycle

● Comments:

Reply to the communication dated June 10, 2003 is annexed hereto. Kindly file same accordingly.

Official

FAX RECEIVED

JUL 21 2003

GROUP 3600

Pet. 12/3/07

Sub spec. 1/27/03

Pet. 2/28/03

7/16/03

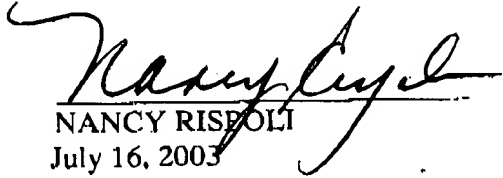
FAX RECEIVED

JUL 16 2003

PETITIONS OFFICE

IN RE APPLICATION OF	
HANK KLEBAN	
SERIAL NUMBER	FILED
09/800,871	3/07/01
FOR	
EQUAL RESPONSE AXLE	
GRP. ART UNIT	EXAMINER
3616	FLEMING, F

FAX RECEIVED  
JUL 16 2003  
PETITIONS OFFICE

CERTIFICATE OF TRANSMISSION		ATTORNEY DOCKET NO: P00-132-KLE
<p>I hereby certify that a response to the communication of June 10, 2003 is hereby being telefaxed to the USPTO, Office of Petitions, Deputy Commissioner of Patent Examination Policy P.O. Box 1450 Alexandria, VA 22313-1450 @ 703-308-6916 and to Steven Meyers, Special Programs Examiner @ 703-604-0586.</p> <p> NANCY RISEOLI July 16, 2003</p> <p>FAX RECEIVED JUL 21 2003 GROUP 3600</p>		

**JOEL & JOEL, LLP**

COUNSELLORS AT LAW

496 KINDERKAMACK ROAD  
GRADIENT, NEW JERSEY 07649-1205  
(201) 599-0588  
FACSIMILE (201) 599-0179RICHARD A. JOEL  
LAWRENCE A. JOEL  
RICHARD A. JOEL, JR.1. NJ, NY & DC BARS  
2. NJ, NY & PA BARSNEW YORK OFFICE  
301 HIGHMOUNT TERRACE  
UPPER NYACK, NEW YORK 10960  
(845) 353-2050

July 16, 2003

Via Telefax 703-308-6916  
(Office of Petitions)  
Via Telefax 703-605-0586  
(S. Meyers)Deputy Commissioner of  
Patent Examination Policy  
Steven N. Meyers,  
Special Programs Examiner  
P.O. Box 1450  
Alexandria, VA 22313-1450In re application of  
Hank Kleebar  
Application No. 09/800,871  
Filed: March 7, 2001  
For: Equal Response Axle**RENEWED PETITION TO WITHDRAW THE  
HOLDING OF ABANDONMENT UNDER 37 CFR 1.181**

This is in response to the Patent Office's denial of applicant's Petition to Withdraw the Holding of Abandonment dated June 10, 2003.

Applicant renews his request to withdraw the holding of abandonment which was due solely to the fault of the Patent Office. Applicant is elderly and has limited funds. It is an extreme hardship to force applicant to go through an expensive and lengthy procedure to revive an application which never should have been deemed "abandoned" by the Patent Office.

There is no doubt that the Patent Office received a timely response to the outstanding Office Action of July 16, 2002 on August 13, 2002, EXHIBIT 1. All Claims were allowed in the Action and the only open item was an objection to the drawings. Corrected drawings were submitted on August 13, 2002, EXHIBIT 2.

**Official****FAX RECEIVED****JUL 21 2003****GROUP 3600****FAX RECEIVED****JUL 16 2003****PETITIONS OFFICE**

**JOEL & JOEL, LLP**

PAGE TWO

RE: SN: 09/800,871  
(PTO—Petitions)

July 16, 2003

Subsequently, applicant contacted the Examiner on January 27, 2003 and requested a status up-date, EXHIBIT 3. The Examiner stated that the drawings were "fine as submitted but a substitute specification would have to be submitted." There was no mention that the application was abandoned. A marked-up copy of the specification was filed on January 29, 2003, EXHIBIT 4. Why would the Examiner have requested a marked-up copy of the specification if it were abandoned? Quite simply, it was not abandoned but probably lost in the Patent Office as has happened to a number of applications filed by applicant's attorney.


Applicant submitted a record of the FAX transmission sheet indicating the corrected drawings were forwarded to the Patent Office on August 13, 2002, EXHIBIT 1. The decision on the Petition to Withholding the Petition of Abandonment notes not that the Office did not receive the required response, but---

*"...The only acceptable proof to accord an earlier filing date of a copy of the communication submitted by facsimile would be a Certificate of Transmission."*

Accordingly, applicant is submitting such Certificate with this renewed petition to buttress the machine record submitted as EXHIBIT 2. All Claims were allowed in this application and the drawings properly submitted.

It is respectfully requested that the Patent Office withdraw the Notice of Abandonment and issue a Notice of Allowance.

Respectfully submitted,

  
RICHARD A. JOEL  
Reg. No. 22212

# **EXHIBIT 1**

496 KINDERKAMACK ROAD, ORADELL, NJ 07649  
201-599-0588—(PAX) 201-599-0179

JOEL & JOEL LLP

# Fax

To: EXAMINER FLEMMING From: RICHARD A. JOEL, ESQ. (Reg. No. 22212)

Fax: 703-746-3614 Pages: 3

Phone: Date: 8/13/02

Re: SN: 09/800,817 (EQUAL  
RESPONSE AXLE)  
Attorney Docket No. P01-132-KLE

☐ Urgent ☒ For Review ☒ Please Comment ☒ Please Reply ☐ Please Recycle

● Comments:

Per your conversation with Nancy Rispoli of my office, I am submitting corrected drawings in reply to your communication of July 16, 2002. If the corrected drawings are acceptable, please advise and formal drawings will be filed accordingly. Thank you.

FIG. 1

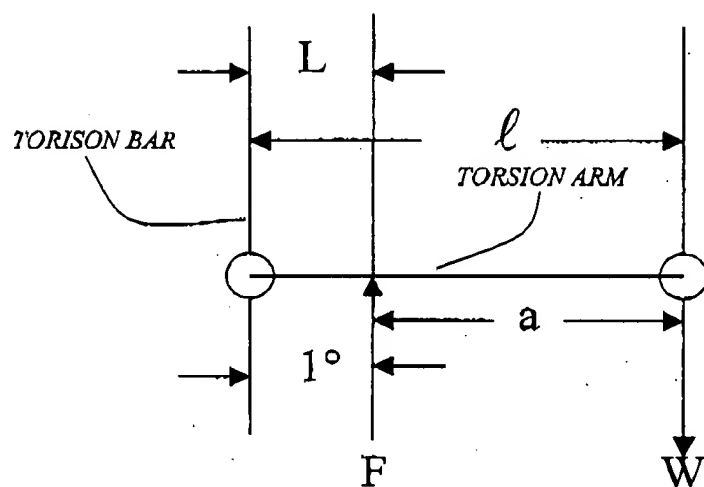
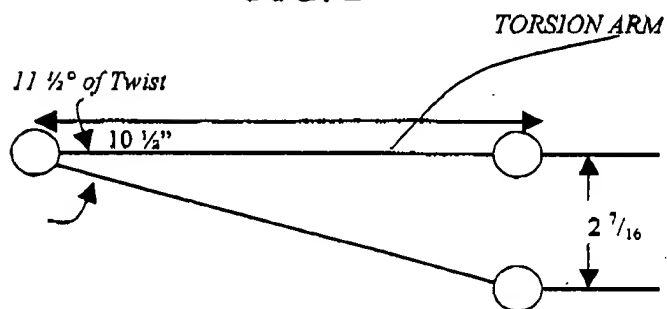
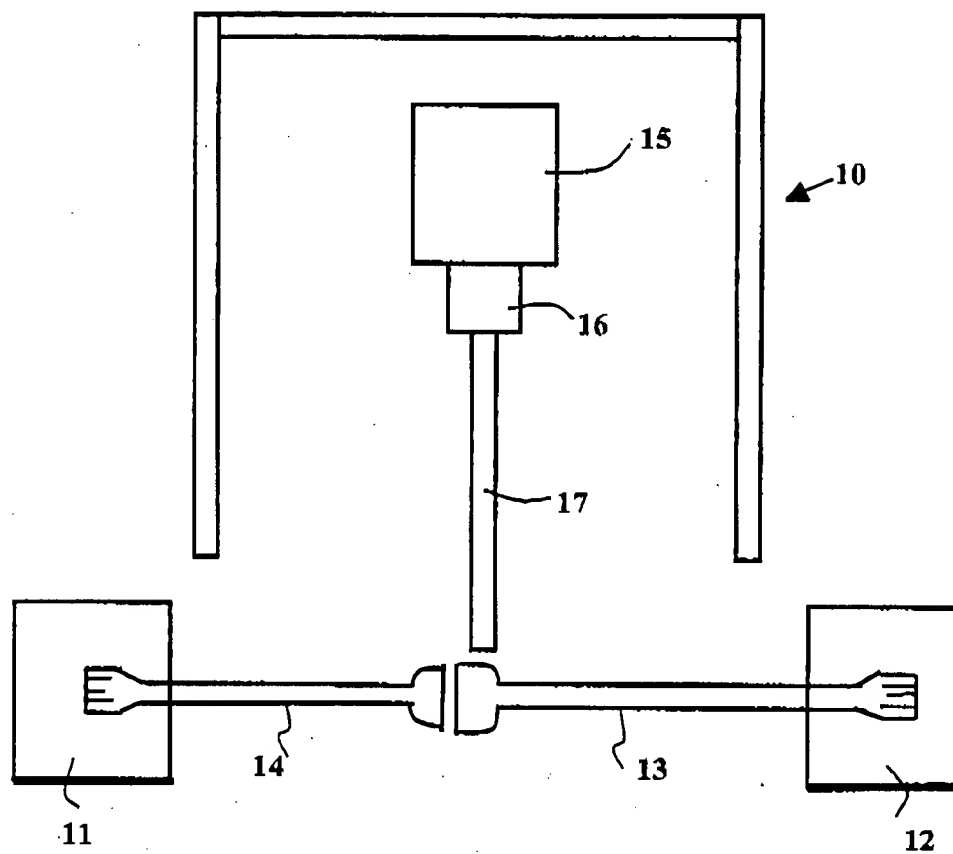


FIG. 2



**FIG. 3**



# **EXHIBIT 2**

## \*\*\* ACTIVITY REPORT \*\*\*

TX TOTAL PAGES 8412  
RX TOTAL PAGES 3152

PRINT TIME 08/13 '02 PM 12:22 ID:JOEL JOEL

FAX:2015990179

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	08/13 P12:13	RX		0	26	07'47"	OK-S

KLEBAN

Drawings

# **EXHIBIT 3**

496 KINDERKAMACK ROAD, ORADELL, NJ 07649  
201-599-0588—(FAX) 201-599-0179

JOEL & JOEL LLP

# Fax

To: EXAMINER FLEMMING From: RICHARD A. JOEL, ESQ. (Reg. No. 22212)

Fax: 703-746-3614 Pages: 5

Phone: Date: 1/27/03

Re: SN: 09/800,817 (EQUAL  
RESPONSE AXLE)  
Attorney Docket No. P01-132-KLE

☐ Urgent ☒ For Review ☒ Please Comment ☒ Please Reply ☐ Please Recycle

● Comments:

Per your conversation with my office, I am submitting clean copy of spec. Thank you.

CLEAN COPY SPEC--09/800,871  
EQUAL RESPONSE AXLE

**BRIEF DESCRIPTION OF THE DRAWINGS**

The above and other objects and advantages of this invention may be more clearly seen when viewed in conjunction with the accompanying drawings wherein:

FIG. 1 is a representation of the dimensions employed in Step 2 of the detailed description;

FIG. 2 is a diagrammatic view of the elements of Step 5 in the detailed description, and;

FIG. 3 is a schematic top view of a vehicle with the unique axles.

**DETAILED DESCRIPTION OF THE INVENTION**

This invention relates to equal response axles for vehicles 10 having a front engine 15 and a rear wheel drive (non-independent suspension) and is particularly suited for use on racing cars. The invention involves a method and design for equalizing the torque at the tire contact patch. The engine 15 is connected through a transmission 16 to a drive shaft 17 which drive the axels 13 and 14.

Accordingly, the right and left axles 13 and 14 are machined to different dimensions based on a formula for calculating spring rates (torsional stiffness) of torsion bars. Basically, the calculation uses the static loaded radius (dimension from center of axle to ground) using either static or dynamic weight on the tire (portion of tire flat on the ground).

In Step 1, the polar moment of inertia (1) for a tubular bar is calculated as follows:

**STEP 1**

Solid Bar

$$J = \frac{\pi D^4}{32}$$

Tubular Bar

$$J = \frac{\pi (D_1^4 - D_2^4)}{32}$$

where J=Polar moment of inertia  
D=Diameter of bar

D<sub>1</sub>=outer diameter  
D<sub>2</sub>=inner diameter

In Step 2, reference should be made to FIG. 1 for the various parameters.

## **STEP 2**

$$F = \frac{W \times L}{L}$$

where F=T

F=force

T=torque

## **STEP 3**

$$\theta = \frac{T \times L}{G \times J}$$

where w=a select weight

F=force in pounds

T=torque in pounds

J=polar moment

G=modules of elasticity in shear (PSI)

L=working length of bar

Note:

- (1) For W use 500 pounds for 1 inch or larger bars
- (2) Use 10,750,000 for G with 4140 steel
- (3) Answer will be in radians

## **STEP 4**

Multiply the answer in Step 3 by 57.3=Degrees of twist

Refer to FIG. 2 for an understanding of Step 5

## **STEP 5**

- (a) Draw a line using torsion arm length.
- (b) Draw a second line of the same length representing degrees of twist.
- (c) Divide the load by the distance.

**STEP 6**

Divide the load by the distance

Load=W=500

$L=500=205$  inch pounds

Distance=2 7/16

D 2 7/16

Using the above formula to dimension the rear axles on high performance or racing cars overcomes the problems associated with an unequal response as torque is delivered unequally to the rear wheels 11 and 12. The problems are caused by the instantaneous weight transfer to the left rear wheel 11 and the fact that the right side axle 13 is longer than the left side 14, yet both conventionally have the same diameter in the effective length of the axle. The fact that the left side axle 14 is shorter with the same diameter means that the left rear wheel 11 will lose traction first under hard acceleration because the shorter axle 14 has a high spring rate (torsionally stiffer), and the longer axle 13 will twist slightly before spinning the wheel 12. If the right and left axles 13 and 14 are machined to different dimensions determined by the foregoing formulas the problems are overcome. This invention uses the static loaded radius (dimension from center of axle to ground) using either straight static or curved dynamic weight on the tire.

If you are going through a left hand corner and the car has a slight under steer, a softer left rear axle 14 can fix this problem. Also, if you going through a right hand corner under power you must be much more careful not to spin out than if it was a left hand corner. There is a torque reaction that takes weight off the right rear wheel 12 and applies it to the left rear wheel 11. The weight transfer going through a right hand corner is also transferring weight to the left side wheels 11 together. This is loading up the left rear wheel 11 to the point where spinning out becomes all too easy. However, with the proposed "kera" axles, if you choose to replace the left rear axle 14 with a smaller diameter, (softer spring rate in twist), the instantaneous weight

transfer can be softened (absorbed) in the twisting action of the axle 14 which will result in more grip on the race track.

Applications particularly suited for the invention occur in oval track racing cars, open wheel cars, road racing cars, off road racing vehicles, high performance street cars, sport utility vehicles, pick-up trucks and commercial trucks and buses on all live axle rear wheel drive passenger cars.

In drag racing, the "kera" sized axle will allow more even distribution of power under acceleration. Axle sizing is an excellent way of tuning the chassis under acceleration. The "kera" sized axle also helps prevent breakage of drive train parts.

The general advantages for all road vehicles include:

- 1) Less wheel spin under acceleration;
- 2) More even application of torque to drive wheels (even wear);
- 3) Less breakage in drive train;
- 4) Better response under starting acceleration;
- 5) Better grip when applying power through corner;
- 6) More even deceleration;
- 7) Better drive wheel tire wear.

While the invention has been explained by a detailed description of certain specific embodiments, it is understood that various modifications and substitutions can be made in any of them within the scope of the appended claims, which are intended also to include equivalents of such embodiments.

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**Richard Joel Sr**

---

**From:** "Richard Joel Sr" <rjoelsr@worldnet.att.net>  
**To:** <faye.fleming@uspto.gov>  
**Sent:** Monday, January 27, 2003 4:01 PM  
**Attach:** fig3 (09.800,871).doc; figs1-2 (09.800,871).doc; substitute spec.doc  
**Subject:** SN: 09/800,871

Dear Examiner Fleming:

Attached please find substitute specification and drawings with regard to the above.

Please note that spec and drawings are in MS WORD format.

If anything further is required, please contact my office.

Very truly yours,

NANCY RISPOLI for  
RICHARD A. JOEL  
Attorney for Applicant  
Reg. # 22212

rjoelsr@att.net

IN RE APPLICATION OF:

**Applicant:** HANK KLEBAN  
**Serial Number:** 09/800,871  
**Filing Date:** 3/7/2001  
**Invention:** EQUAL RESPONSE AXLE

1/27/03

**SUBSTITUTE SPEC--09/800,871**  
**EQUAL RESPONSE AXLE**

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Accordingly, the right and left axles 13 and 14 are machined to different dimensions based on a formula for calculating spring rates (torsional stiffness) of torsion bars. Basically, the calculation uses the static loaded radius (dimension from center of axle to ground) using either static or dynamic weight on the tire (portion of tire flat on the ground).

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### STEP 2

$$F = \frac{W \times L}{L}$$

where F=T

F=force

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### STEP 3

$$\theta = \frac{T \times L}{G \times J}$$

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**STEP 6**

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$$\text{Distance}=2 \frac{7}{16}$$

$$\frac{L=500}{D}=205 \text{ inch pounds}$$

$$D \ 2 \frac{7}{16}$$

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FIG. 1

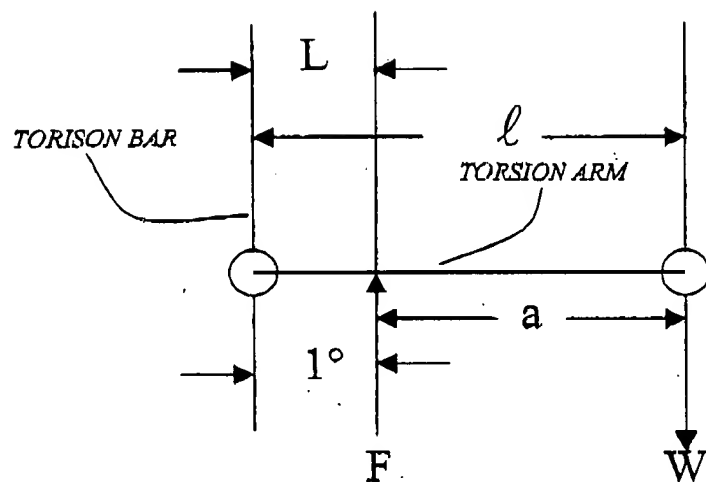
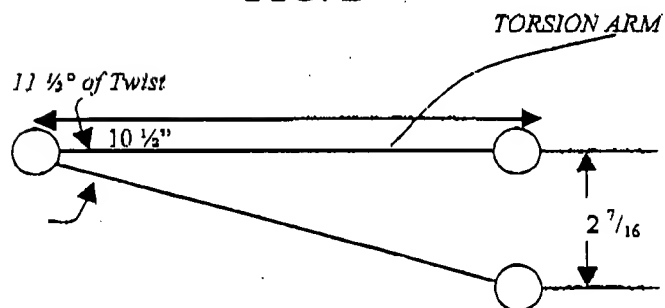
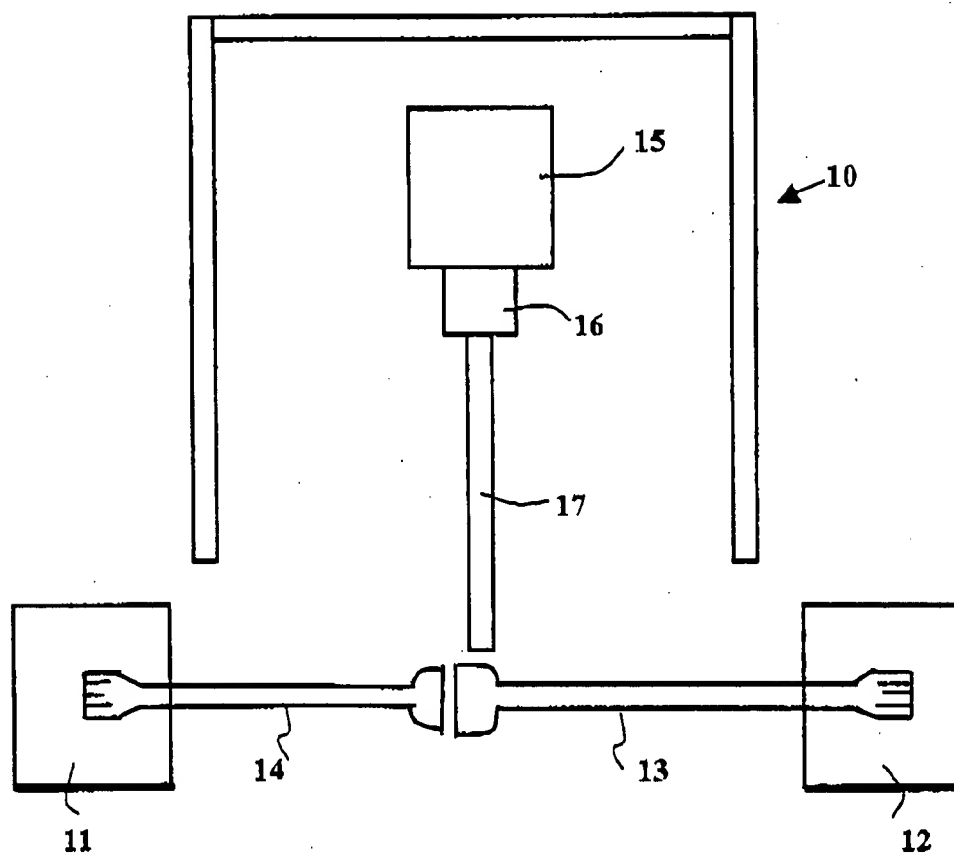


FIG. 2



**FIG. 3**

**Richard Joel Sr**

---

**From:** "Richard Joel Sr" <rjoelsr@worldnet.att.net>  
**To:** <faye.fleming@uspto.gov>  
**Sent:** Monday, January 27, 2003 4:15 PM  
**Subject:** 09/800,871

## IN RE APPLICATION OF:

**Applicant:** HANK KLEBAN  
**Serial Number:** 09/800,871  
**Filing Date:** 3/7/2001  
**Invention:** EQUAL RESPONSE AXLE

There is no new matter introduced in connection with the replacement drawings and specification that are clearly determinable from the drawings and specification previously submitted.

Very truly yours,

RICHARD A. JOEL  
REG. # 22212

1/27/03



# **EXHIBIT 4**

496 KINDERKAMACK ROAD, ORADELL, NJ 07649  
201-599-0588—(FAX) 201-599-0179

JOEL & JOEL LLP

# Fax

To: EXAMINER FLEMMING From: NANCY RISPOLI for RICHARD A. JOEL,  
ESQ. (Reg. No. 22212)

Fax: 703-746-3614 Pages: 6

Phone: Date: 1/29/03

Re: SN: 09/800,817 (EQUAL  
RESPONSE AXLE)  
Attorney Docket No. P01-132-KLE

☐ Urgent ☒ For Review ☒ Please Comment ☒ Please Reply ☐ Please Recycle

● Comments:

Per your conversation with my office, I am submitting marked up copy of spec along with signed document indicating that no new matter was introduced. Thank you.

MARKED UP SPEC--09/800,871  
EQUAL RESPONSE AXLE

**BRIEF DESCRIPTION OF THE DRAWINGS**

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FIG. 2 is a diagrammatic view of the elements of Step 5 in the detailed description, and;

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where J=Polar moment of inertia  
D=Diameter of bar

D<sub>1</sub>=outer diameter  
D<sub>2</sub>=inner diameter

In Step 2, reference should be made to FIG. 1 for the various parameters.

### **STEP 2**

$$F = \frac{W \times L}{L}$$

where F=T

F=force

T=torque

### **STEP 3**

$$\theta = \frac{T \times L}{G \times J}$$

where w=a select weight

F=force in pounds

T=torque in pounds

J=polar moment

G=modules of elasticity in shear (PSI)

L=working length of bar

Note:

- (1) For W use 500 pounds for 1 inch or larger bars
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- (3) Answer will be in radians

### **STEP 4**

Multiply the answer in Step 3 by 57.3=Degrees of twist

Refer to FIG. 2 for an understanding of Step 5

### **STEP 5**

- (a) Draw a line using torsion arm length.
- (b) Draw a second line of the same length representing degrees of twist.
- (c) Divide the load by the distance.

**STEP 6**

Divide the load by the distance

Load=W=500

$L = \frac{500}{2} = 205$  inch pounds

Distance=2 7/16

D 2 7/16

Using the above formula to dimension the rear axles on high performance or racing cars overcomes the problems associated with an unequal response as torque is delivered unequally to the rear wheels 11 and 12. The problems are caused by the instantaneous weight transfer to the left rear wheel 11 and the fact that the right side axle 13 is longer than the left side 14, yet both conventionally have the same diameter in the effective length of the axle. The fact that the left side axle 14 is shorter with the same diameter means that the left rear wheel 11 will lose traction first under hard acceleration because the shorter axle 14 has a high spring rate (torsionally stiffer), and the longer axle 13 will twist slightly before spinning the wheel 12. If the right and left axles 13 and 14 are machined to different dimensions determined by the foregoing formulas the problems are overcome. This invention uses the static loaded radius (dimension from center of axle to ground) using either straight static or curved dynamic weight on the tire.

If you are going through a left hand corner and the car has a slight under steer, a softer left rear axle 14 can fix this problem. Also, if you going through a right hand corner under power you must be much more careful not to spin out than if it was a left hand corner. There is a torque reaction that takes weight off the right rear wheel 12 and applies it to the left rear wheel 11. The weight transfer going through a right hand corner is also transferring weight to the left side wheels 11 together. This is loading up the left rear wheel 11 to the point where spinning out becomes all too easy. However, with the proposed "kera" axles, if you choose to replace the left rear axle 14 with a smaller diameter, (softer spring rate in twist), the instantaneous weight

transfer can be softened (absorbed) in the twisting action of the axle 14 which will result in more grip on the race track. .

Applications particularly suited for the invention occur in oval track racing cars, open wheel cars, road racing cars, off road racing vehicles, high performance street cars, sport utility vehicles, pick-up trucks and commercial trucks and buses on all live axle rear wheel drive passenger cars.

In drag racing, the "kera" sized axle will allow more even distribution of power under acceleration. Axle sizing is an excellent way of tuning the chassis under acceleration. The "kera" sized axle also helps prevent breakage of drive train parts.

The general advantages for all road vehicles include:

- 1) Less wheel spin under acceleration;
- 2) More even application of torque to drive wheels (even wear);
- 3) Less breakage in drive train;
- 4) Better response under starting acceleration;
- 5) Better grip when applying power through corner;
- 6) More even deceleration;
- 7) Better drive wheel tire wear.

While the invention has been explained by a detailed description of certain specific embodiments, it is understood that various modifications and substitutions can be made in any of them within the scope of the appended claims, which are intended also to include equivalents of such embodiments.

**Richard Joel Sr**

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**From:** "Richard Joel Sr" <rjoelsr@worldnet.att.net>  
**To:** <faye.fleming@uspto.gov>  
**Sent:** Monday, January 27, 2003 4:15 PM  
**Subject:** 09/800,871

IN RE APPLICATION OF:

**Applicant:** HANK KLEBAN  
**Serial Number:** 09/800,871  
**Filing Date:** 3/7/2001  
**Invention:** EQUAL RESPONSE AXLE

There is no new matter introduced in connection with the replacement drawings and specification that are clearly determinable from the drawings and specification previously submitted.

Very truly yours,

  
RICHARD A. JOEL  
REG. # 22212

## \*\*\* ACTIVITY REPORT \*\*\*

TX TOTAL PAGES 3758  
RX TOTAL PAGES 8750

PRINT TIME 01/27 '03 PM 12:35 ID:JOEL JOEL

FAX:2015990179

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	01/24 A10:25	RX		0	1	00'50"	OK-B
	01/24 A10:31	RX		0	8	02'19"	OK-S
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	01/24 P12:53	RX		0	5	02'56"	OK-B
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319	01/25 P04:32	TX	15205775878	25	3	01'54"	OK-S
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	01/26 P02:33	RX	77	0	1	00'58"	OK-S
	01/27 A09:50	RX	1 212 543 5562	0	5	02'26"	OK-B
	01/27 A10:18	RX	MAP Mobile	0	1	00'25"	OK-S
	01/27 A10:23	RX		0	4	02'16"	OK-B
	01/27 A10:26	RX		0	12	09'37"	OK-B
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321	01/27 A11:24	TX	17037463614	4	4	01'18"	OK-S
322	01/27 A11:37	TX	2013431663	1	1	00'26"	OK-S
	01/27 P12:13	RX	7328360028	0	2	00'36"	OK-S
323	01/27 P12:33	TX	17037463614	5	5	01'45"	OK-S



IN RE APPLICATION OF <b>HANK KLEBAN</b>	
SERIAL NUMBER	FILED
<b>09/800,871</b>	<b>3/07/01</b>
FOR <b>EQUAL RESPONSE AXLE</b>	
ORP, ART UNIT	EXAMINER
<b>3616</b>	<b>FLEMING, F</b>

<b>CERTIFICATE OF TRANSMISSION</b>	ATTORNEY DOCKET NO: P00-132-KLE
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I hereby certify that a response to the Office Action of July 16, 2002 was telefaxed to the Patent Office on August 13, 2002, providing formal drawings to the above application containing only allowed claims and on which prosecution on the merits has closed.

  
NANCY RISPOLI  
July 16, 2003